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PATENT COOPERATION TREATY

PCT/JP2003/014118



# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Translation

Applicant's or agent's file reference <b>JASIA-1-PCT</b>	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. <b>PCT/JP2003/014118</b>	International filing date (day/month/year) <b>05 November 2003 (05.11.2003)</b>	Priority date (day/month/year) <b>05 November 2002 (05.11.2002)</b>
International Patent Classification (IPC) or national classification and IPC <b>G09B 29/00</b>		
Applicant <b>ASIA AIR SURVEY CO.,LTD.</b>		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>	
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>	

Date of submission of the demand <b>04 June 2004 (04.06.2004)</b>	Date of completion of this report <b>29 November 2004 (29.11.2004)</b>
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/014118

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ The international application as originally filed/furnished
- ☐ the description:
- pages \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the claims:
- pages \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_, as amended (together with any statement) under Article 19
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the drawings:
- pages \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP03/14118

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	2, 3, 5, 6, 10-12	YES
	Claims	1, 4, 7, 8, 9	NO
Inventive step (IS)	Claims		YES
	Claims	1-12	NO
Industrial applicability (IA)	Claims	1-12	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

Document 1: Vector-Jo o Mochiita Gazo Kaiseki (KATSUYUKI SHINOHARA, ET AL.), ITEJ Technical Report, 20 May 1993 (20.05.93), Vol. 17, No. 28, pages 11-16

Document 2: Solid Texturing o Riyo Shita 3-Jigen Nin'i Gamenjo ni Okeru Sensekibun Tatamikomihō (MAKOTO KIKUKAWA, ET AL.), The Journal of the Institute of Image Electronics Engineers of Japan, 25 July 2000 (25.07.00), Vol. 29, No. 4, pages 283-291

## Claims 1, 4, 7, 8, 9

Document 1 states, "A color image can be considered a vector field defined by multi-dimensional color vectors in a two-dimensional pixel plane. Therefore, if RGB signals are converted to a CIE L\*a\*b\* equalized color space and the color image is considered a vector field from pixel plane V2 to V3 (F: V2 → V3), it becomes possible to consider pixel characteristics from the viewpoint of a vector field." (page 11, left column, lines 5-10); and "... consider modification of the vector field near the edge using the maximum value in a Jacobian matrix and a specific vector corresponding to it" (page 11, left column, lines 12-13); and "... detected the edge using the maximum specific value in a differential matrix, and compared edge strength and resistance to noise using a Prewitt differential operator on the luminance signal." (page 11, left column, lines 5-10). Differentiation detects the same edge strength for degree of depression, degree of elevation, and inclination. This includes the inventions of claims 1, 4, 7, 8, and 9.

## Claims 2, 3, 5, 6

Document 2 states, "A vector at an arbitrary position on a plane is found by interpolating vectors defined by the vertices of a triangle that includes that position. Therefore it is necessary to specify a triangle that includes the intersection point and having positions on a streamline that are dropping. ... Figure 6 shows the fluid calculation method on a physical body surface in a texture coordinate system. If a lattice constituted by points having the integer values used in the solid noise calculation as coordinates is treated as a three-dimensional lattice covering the physical body, a streamline of points on the physical body's surface can, in the same manner as the original LIC method of Cabral, et al., be approximated as a broken line that from a starting point connects a tangent extended along the vector to each cell of the lattice." (page 287, right column, lines 1-22); and "... an example in which the vector's normal-direction component is visualized using color information. ... The direction toward the component plane is mapped as hue, and magnitude is mapped as saturation. Dark green indicates a strong flow toward the plane, and pale red indicates a weak flow away from the plane." (page 290, right column, lines 14-19). Connecting coordinate points and detecting the position of one plane in a specified region of a plane and combining this with the constitution of the invention of document 1 and arriving at the invention of claims 2, 3, 5, and 6 could easily be conceived by a person skilled in the art.

## Claims 10, 11, 12

In addition to the descriptions cited above, document 2 describes meshing the intervals between lines of equal height. Combining this with the constitution of the invention of document 1 and arriving at the invention of claims 10, 11, and 12 could easily be conceived by a person skilled in the art.